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MANAGEMENT OF COMPLICATED LABOR IN THE HOME

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A few general ideas on conduct of labor to reduce complications:

1. Never give the exact date of delivery and always use the word labor "contraction" instead of "pain."

2. At each prenatal visit prepare the mind of the patient for the conduct of labor so that she will not be nervous about possible delay or possible prolonged labor. It is essential that she understand not to bear down until you alone advise her.

3. During the actual labor see that she gets two things: First, rest. If she is induced to sleep between uterine contractions, it is remarkable the amount of rest she thus obtains. Morphine, gr. 1/4, may be given in the first stage of delivery. Second, see that she gets fluid and glucose (sweetened drinks). She should have at least 3500 cc. per 24 hours intravenously if necessary. This can be given in the home without any trouble by use of the marketable containers. It is surprising how much good there is in a little morphine and 500 or 1000 c. c. of intravenous fluid in exhausted labor.

4. For anesthesia in country practice I found satisfactory morphine gr. 1/4 in the first stage and ether inhalation at delivery. On account of its respiratory depressing effect not only upon the mother but more so upon the infant the writer seldom uses morphine in hospital practice, favoring other methods. However he is in agreement with Irving that when used it should be given not later than 8 hours before delivery; otherwise the baby does not initiate respiration so well.

5. 97 women out of every hundred will deliver spontaneously if the above details are carried out. If there is delay, suspect an occiput posterior position and be on the lookout for the rare transverse position with shoulder or arm presentation.

Women may be classified constitutionally into three types: Stiller-Glenard, long, slender type; Froehlich, short, obese type, and the median type between the two above described. Remember that trouble in labor in more apt to occur in the short obese type of women. These are subject to long hard labors with tendency for occiput posterior presentation of the fetal head, so-called "dystrophia dystocia syndrome." They require sympathetic attendants, rest between contractions and plenty of fluids. Vaginal examination should not be made because some of them will need Cesarean section which is probably the best treatment if labor is not terminated in 36 hours, preferably the low cervical operation.

Occiput posteriors will rotate spontaneously in most cases if treated as outlined. Not so, transverse cases with shoulder or arm presenting. Treatment here should be active immediately. With best possible cleanliness with rubber gloves and thorough scrubbing of vulva and vagina push cleansed arm up into the uterus and, if the cervix is not fully dilated, insert largest size sterile Voorhees bag and

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fill with sterile fluid. When the cervix is fully dilated in a few hours this bag will come out. Then perform a version and extraction operation with patient anesthetized.

Never deliver through undilated cervix and remember it is not possible satisfactorily to dilate cervix manually. The best way is to give sedative and fluids with dextrose preferably intravenously and insert largest size bag which will dilate the cervix in a few hours.

In the rare condition of contraction ring dystocia try 5 minims of adrenaline subcutaneously repeated if necessary in 10 minutes. Amyl nitrite may be tried. If the ring does not disappear, desist from further efforts to dilate. put patient back to bed, give sedatives and fluids and dextrose intravenously. The mortality is much less this way than any other.

In case of inversion of the uterus immediate reposition is indicated and the sooner the better, due regard being had to asepsis and trauma.

THERAPY OF HEMORRHAGE

Prophylactic: wheat germ oil and space pregnancy at least two years apart. In the early months of pregnancy the physician must differentiate between threatened or incomplete abortion and ectopic pregnancy. Both cases bleed vaginally. The pain of uterine abortion in usually midline while that of ectopic pregnancy is likely to be unilateral. Ectopic pregnancy usually has a unilateral very tender mass. Ectopic pregnancy often gives a history of sudden onset with tendency to faint. The pain is cramp like usually in one side of lower abdomen. Rest in bed often relieves the trouble until the patient gets up again. The main thing is to keep diagnosis of ectopic pregnancy always in mind. Of course the treatment is immediate operation to tie off the bleeding vessel, if at all possible in a hospital.

Because of the danger of stirring up infection, uterine abortion, however, in the great consensus of opinion the world over calls for conservative treatment. The head of the bed elevated for drainage, oxytocic drugs, ergot and pituitrin, possibly ice bag to abdomen are indicated. Only if patient tends to have severe hemorrhage is one justified in removing tissue which presents at the external os and then packing the uterus with sterile gauze. Scraping the highly vascularized and potentially infected uterus is like incising a boil before it is ripe. If she continues to bleed a month or so, then currettage is indicated. Remember to keep her built up with good food, fresh air and transfusions if possible.

In the later months of pregnancy any vaginal bleeding is of the utmost importance and is indicative of possibly the most serious consequences. So exceedingly important is it that the physician must think of placenta previa or separation of the normally implanted placenta. Regardless of the differential diagnosis given in the textbooks, these two conditions shade one into the other and are often indistinguishable. The therapy is essentially the same and calls for (1) hospitalization, if at all possible, without vaginal examination or packing, remembering that she can bleed to death in a very short while and the physician should be sure to take all the blood donor relatives and friends with her. (2) Immediate cross matching the donors. (3) Termination of pregnancy. How is this to be done in placenta previa? The University of Chicago has cut their mortality in this condition to 2% by plenty of blood for transfusion and low cervical section. In the home with no chance for hospitalization, the physician should not make vaginal examination until the vulva, vagina and his hands have been scrubbed for five full minutes, antiseptic solutions applied and sterile rubber gloves used. He should have available various specula and a sterile Vorhees bag of largest size. He may then choose one of the accepted procedures:

1. Rupture membranes and tight binder (this serves well for either placenta previa or placenta ablatio).

2. Braxton Hicks version. This is a definite and useful procedure but not to be confused with version and immediate extraction. Braxton Hicks version consists in turning the child with the operator's two fingers in the cervical canal and with the other hand manipulating the fetus through the mother's abdomen. Now when turned bring one foot through the cervix. Put on it only enough traction to stop hemorrhage and let the child's wedge-shaped body press against the placenta and gradually, usually in a few hours, the cervix dilates. To extract immediately is amost always fatal to the mother

because it is impossible to avoid deep inacessible broad ligament tears. Braxton Hicks version has excellent reputation for home obstetrics but we have found it to be a difficult operation.

3. A third procedure for placenta previa and one which will probably develop into great usefulness is the recently advocated Willet forceps. This consists of any available tenacula forceps applied to the fetal scalp and enough traction made to stop the hemorrhage by pressing the placenta against the cervix. If this pulls out as in one of our cases recently, the tenacula may be attached to the parietal bones without greatly increasing danger to the already precarious condition of the child.

4. The phyisician has a choice of a bag (largest one he can obtain) sterilized and inserted into the cervix above the placenta. This is highly recommended by Williams' textbook and I believe it should be routine in the home. When this is filled with sterile water or weak antiseptic solution by a syringe it may be used in the same manner as the foot in the Braxton Hicks version. It presses against the low lying placenta to stop hemorrhage. The danger here is that, when the bag dilates the cervix and descends into the vagina, the head does not follow and bleeding takes place. Care on the part of the physician to see that the head engages, is necessary which prevents any further trouble.

Post partum hemorrhage is a rare condition since we now have excellent oxytocic drugs, ergonovine and pituitrin. However, if there is severe hemorrhage from the uterus after delivery of child and before the placenta is delivered, it indicates cervical laceration. Sponge forceps should be sterile and ready for this emergency. With them applied to the edge of the cervix it may be visualized and repaired with sutures. If the cervix is not injured and the hemorrhage is from the uncontracted uterus, massaging it in addition to administration of ergot and pituitrin will often control the bleeding. If not, sterile packing should be done. This may be accomplished easily with little danger to the mother by use of an automatic packer.

THERAPY OF LATE TOXEMIA AND ECLAMPSIA

Prophylaxis.

Prenatal care includes urinalysis, weight and blood pressure record every two or three weeks. Danger signals are: weight showing increase of more than two or three pounds between prenatal visits, or blood pressure rising above 130, or albuminuria. Treat by reducing diet to fresh milk and orange juice, 5% vegetables, and keeping patient in bed. If edema, albuminuria and hypertension are not relieved promptly, we believe it is best to terminate pregnancy. We find that the best general method, fairly safe and easily done, is catheter insertion. Labor usually begins in a few hours and is normal throughout as a rule. Rupture of membranes is not always certain in prematures.

Active treatment of eclampsia. With the aid of the departments of Medicine and Anesthesia, we have developed and highly recommend a five-point treatment in eclampsia:

1. 2 grams of magnesium sulphate intravenously in 10% solution every one hour as long as blood pressure is 160 or more (24 grams in 24 hours may possibly be given).

2. Salt-free diet.

3. 3500 c. c. 5% dextrose in sterile distilled water intravenously daily when in coma.

4. Absolute rest with foot of bed elevated, duodenal nasal tube constant suction when she is comatose to prevent aspiration pneumonia.

5. When condition improves, induce labor by rupture of membranes if at term or catheter insertion if earlier.

THERAPY OF SEPSIS

Prophylaxis.

Cauterize all eroded cervices six weeks after labor.

Make no vaginal examination after eight months in pregnancy.

Advise dental care during pregnancy to rid patient of foci of infection.

Cure anemia.

Learn technic of rectal examination. What can one ascertain by rectal examination? Practically all that he can by vaginal examination. (1) Station of head with reference to ischial spines (engagement). (2) Contour of

sacrum. (3) Usually condition of cervix dilatation and effacement. (4) Often position of head by fontanelles. Furthermore, it is not necessary to scrub for this examination.

Interdict intercourse after 7 1/2 or 8 months. No douches after 7 1/2 or 8 months. For delivery scrub hands and vulva at least five minutes with soap and water. Use sterile rubber gloves. Repair carefully all vulvar and perineal tears. How can you tell whether the cervix is torn without an examination? The following is a method I have used. If after delivery of baby, the hemorrhage ceases this is proof that the cervix is intact because the placenta plugs the internal os above the cervix.

Active treatment. First suspect all rise in temperature in the puerperium as due to genital tract infection and treat accordingly. Second, keep in mind all of the various types of sepsis and classify your patient accordingly whether she has local, vaginal or perineal tear infection, cervical infection or mild uterine infection. Also by what route it is travelling, (1) blood stream directly, (chills and fever) or blood stream by thrombophlebitis, (2) by lymphatics, peritonitis (vomiting, distension, pain in adbomen), (3) by cellular infiltration with production of local abscess, etc. The big rules in treatment are rest, fresh air, good food, great quantities of fluid, and repeated small blood transfusions, elevation of head of bed for drainage, oxytocic drugs, ergot and pituitrin for cramping down on the uterine blood vessels. Sulphanilamide seems to be of value. The above therapy will result in extremely low mortality.

THE USE OF HYDROGEN PEROXIDE AS A DIAGNOSTIC AND PROGNOSTIC TEST IN VAGINITIS

By

GEORGE MCCUTCHEN, M. D., COLUMBIA, S. C.

The purpose of this paper is a general dissussion of the various forms of vaginitis and, particularly, the description of a test which to me has proved invaluable as a diagnostic and prognostic aid in the handling of these conditions.

Read before the South Carolina Medical Association, Myrtle Beach, May 19, 1938.

A classification of vaginitis is complete if it includes (1) Trichomonas Vaginitis, (2) Senile (Atrophic, Adhesive, Menopausal) Vaginitis, (3) Chemical Vaginitis, (4) Monilial Vaginitis. It is important to recognize from the standpoint of treatment that there may be overlapping of this classification. For example, a patient may have a Trichomonos infestation superimposed upon senile degenerative changes in the vagina. Because of the fact that so much has been written in recent years about Trichomonas infection, this type of vaginitis is being commonly recognized, and some reports make the statement that the organism can be found in as high as 40% of gynecological patients. In my experience the percentage is much smaller than forty. The incidence of Menopausal and Chemical forms of vaginitis exceeds Trichomonas by about two to one. This incidence, of course, will vary with observers and will probably vary in the next group of patients that I see. Although Monilial infections have been reported as relatively common in some Southern states, notably Texas, I have failed to find this organism in any of the cases of this study, though they have been searched for diligently and even enthusiastically.

The recognition of Trichomonas infestation is relatively easy. The classical description of the discharge as copious, watery, foamy and frothy with a sour, disagreeable odor accompanied by vulval irritation and some burning on urination is certainly characteristic but by no means pathognomonic. The diagnosis, in the last analysis, depends upon the finding of Trichomonads in the vaginal secretion. The examination is satisfactorily done by the hanging drop method, although the organism may be cultured. I have never deemed it necessary to use the culture method. The statement that this infection has a marked tendency to recur is legend. It cannot be denied that this statement is probably the result of failure to look for sources of reinfection. The main sources are bladder involvement and infection of the sexual partner. It is well to examine the sediment of a catheterized specimen of urine and to examine the prostatic fluid of the husband in stubborn, if not in all, cases. The fact that these two easily detectable sources of rein-

fection are present in as high as 20% of all cases makes a search for them worthwhile. Since this disease has an impressively high degree of infectiousness, reinfections may occur from contaminated douche nozzles, soiled linen, and from other female members of the family. The cervix, Skenes and Bartholin's glands act as occasional sources of reinfection, and should be kept in mind. Another reason for reappearance of infection may be insufficient treatment. The usual criteria of cure are disappearance of organisms from the vaginal secretion, absence of discharge, and a normal gross appearance of the vagina. By using the peroxide test, which we will describe later, instead of the usual criteria as an index of cure we can get a much more satisfactory, if not entirely satisfactory, estimate. The various forms of treatment brought out for Trichomonas infection in recent years will vie in volume with that of any other affliction of mankind, including the common cold. Their number is good testimony that the organism is easily eradicated by almost any means, and leaves us in the gratifying position of knowledge that the handling of the vaginal involvement is easy and that a search for sources of reinfection is our only real problem. By searching the literature the following imposing list of substances recommended was compiled:

1. 25% salt solution.
2. Fuller's earth, kaolin, and talc.
3. Pyroligenous acid.
4. Lassar's paste.
5. Metaphen in boroglyceride.
6. Stovarsol.
7. Silver picrate (Picratol).
8. Oxyquiniline sulphate, boric acid, and talc.
9. Tincture of green soap.
10. Glycerin.
11. Glycerin with sodium bicarbonate or borate.
12. Boroglyceride.
13. Methylene blue.
14. Mercurochrome.
15. Aniline dyes.
16. Acriflavine hydrochloride.
17. Tincture of iodine.
18. Hexylresorcinol.
19. Lead acetate.
20. Neo-arsphenamine.
21. Mercury bichloride.
22. Mercarbolide.
23. Lactic acid.
24. Acetic acid.
25. Cornstarch.
26. Quinine sulfate.
27. Borated phenol.
28. Powdered sulfur.
29. Carbosone tablets.
30. Devegan tablets.
31. Vioform.
32. Cinquarsen and boric acid.
33. Salicylic acid.
34. Picric acid.
35. Lugol's solution.
36. Zinc sulfate.
37. Magnesium sulfate.
38. Colloidal aluminum hydroxide.
39. Cultures of Doderlien's Bacillus.
40. Floraquin tablets.
41. Bicarbonate of soda.
42. Copper sulfate.
43. Citric acid.
44. Lactose.

Our purpose is not an exhaustive study of Trichomonas infection, and a detailed account of the claims for his treatment of each man writing on the subject would extend this discussion indefinitely. Personally, I have no brief for any form of treatment. The one that I use, consisting of bathing the vagina with peroxide, gently mopping it dry, and then painting it with 4% aqueous mercurochrome, has proved very effective. It might be said that whatever drug is chosen should be parasiticidal, but above all harmless and non-irritating. A chemical vaginitis produced by some agents can make the treatment worse than the original disease.

Menopausal or atrophic vaginitis is a rather common entity. It represents a manifestation of the degenerative changes in the vagina which follow upon the natural or the artificial menopause. This disease is not an inflammatory but rather a degenerative process. The vagina is usually narrowed and shortened. The vaginal walls are smooth and have the appearance of being tightly stretched, and the natural rugae are hardly visible. Adhesion of the vaginal walls occasionally occurs in long standing cases,

giving rise to the term adhesive vaginitis. Minute ulcerations may be seen with the naked eye, but are much more strikingly revealed by the application of peroxide. The discharge is usually watery in consistency and greyish-white in color but may be serosanguinous, thus giving rise to suspicion of carcinoma. Since this condition is caused by a lack of ovarian hormones, the treatment consists of supplying these hormones in the form of theelin or any other satisfactory commercial preparation. Local treatment has very little effect upon this condition. Davis* has shown by successive microscopic examinations of the vaginal wall that the degenerated squamous epithelium may be brought back to its normal condition by this type of therapy. It has also been pointed out that a lack of vitamin A may be a factor to be dealt with in some cases. Although this condition in its advanced form can be disgustingly resistant to treatment, one can succeed in curing or helping all of them by the above measures and the judicious use of local treatment.

Chemical vaginitis has been found to be common. Its incidence may be said to be due to the indiscriminate use of douches without medical advice for the maintainence of so-called "feminine hygiene." The most commonly enployed douche is probably Lysol solution, but salt, potassium permanganate, weak iodine, and bichloride of mercury solutions are also popular. No one can object to the use of douches for cleansing purposes, but the fact that they are capable of producing a vaginitis must be kept in mind. The difficulty arises in most instances from their too frequent use. I have seen patients who were taking as many as five douches daily, and it is not uncommon to have patients report that they are taking douches once or twice daily. They may begin taking the douches because of the presence of a discharge, and gradually increase the number because of the increase in the discharge. In this instance they usually have a chemical vaginitis superimposed upon the underlying cause of the original discharge. When it is recalled that plain water has the property of softening the vaginal epithelium and disturbing the normal chemical reaction and bacterial flora of the vagina if applied too frequently, one is impressed with the fact that the addition of a strong chemical can do even more harm, since it is applied to an already devitalized area. In this study there have been cases of vaginitis due to hypertonic saline, weak iodine, lysol, and bichloride of mercury. One case of fatal poisoning by bichloride douches was seen; this leads me to believe that this drug should never be prescribed as a douche under any circumstances. Its use is dangerous and it has no properties which would make it preferable to less treacherous agents. Douches accomplish little except a flushing effect of the vaginal canal. The solution stays in contact with the mucosa for only a brief while, and can therefore have very little curative effect. These facts, I think, should limit their use to the cleansing which they are able to accomplish.

Monilial infection (Vaginal Thrush) has been recognized as an entity for some time. Castellani reported its presence in subtropical regions as early as 1916. Since that time many cases have been reported in persons living in temperate zones. Texas has produced several reports. The organism is the same as that causing oral thrush, and it does not seem unreasonable to expect to find cases in our locality, though I have been unseccessful in doing so. It is stated that the vaginal mucosal lesions resemble those of thrush in infants, and that the organisms can be found by direct smears or culture on simple glucose agar. This infection is especially prone to occur in diabetic patients, since the sugar in the urine forms an ideal medium for their growth. Most reported cases have been treated satisfactorily with gentian violet.

Because the peroxide test has been found to be extremely useful in the diagnosis and prognosis of vaginitis, I am reporting it in some detail. It has been used by others to whom I have had an opportunity to describe it, and their reports on it are enthusiastic. The story of its origin is amusing to me because it was accidental. About two years ago a patient being treated for a Trichomonas infection presented herself. The tincture of green soap which I had been using to cleanse the vagina was

*Davis, M. E., *Treatment of Senile Vaginitis With Ovarian Follicular Hormone*, Surgery, Gynecology, and Obstetrics, November, 1935.

missing, so I proceded to mop out the vagina with the least harmful thing on hand. This happened to be a solution of hydrogen peroxide. The pinpoint, red, ulcerated spots on the vaginal mucosa which had been barely visible, if visible at all, were transformed into small white dots standing out in sharp contrast to the pink background of the normal vaginal mucosa. This observation was so impressive that it was used on other patients under treatment at the same time with the same striking result. During the two years which have followed I have had an opportunity to use it for purposes which did not occur to me at the time of my original experience, and a careful search of the literature has failed to reveal any description of the observations which shall be recorded here.

The peroxide test is now used as an index of the degree of involvement in Trichomonas infection and as the criterion of cure in this condition. The degree of involvement can be judged more satisfactorily because many ulcerations are made visible which could not be seen with the naked eye. I believe that we can be much more certain that treatment has been adequate if this criterion of cure is used instead of the usual ones of cessation of discharge, absence of Trichomonads, and normal gross appearance of the vaginal mucosa. I have seen the organisms disappear from the vaginal secretion after one or two treatments and the gross appearance of the vagina become normal, but when peroxide was applied many white spots became evident, indicating, of course, the necessity for further treatment.

In chemical and senile vaginitis the peroxide test is also used as a diagnostic measure and as the index of cure. In these two conditions it reaches its greatest degree of usefulness. In mild forms of chemical and senile vaginitis with a none-the-less troublesome discharge the ulcerations most frequently cannot be seen without the color contrast produced by the peroxide. It serves as the only satisfactory criterion of cure in these conditions, because there are no specific organisms, and in the senile types there is frequently no discharge from the beginning but only a burning sensation in the vagina. This burning may easily be relieved by topical applications, thereby giving one a false sense of security when the ulceration is far from healed.

This test is also applicable in the detection of erosions of the cervix. The extent of an erosion of the cervix may be more clearly demonstrated than with the naked eye. In this connection I have found it more satisfactory than the Schiller or Lugol Solution test in detecting small erosions of the cervix. Since it has been proven that the Schiller test does not give any information of uniform specific value in carcinoma of the cervix, and will lead to serious error if it is assumed to do so, we may find after more extensive study that the peroxide test may supplant it.

The question about the use of a colposcope usually arises in any discussion of vaginal and cervical conditions. My belief about it is that the peroxide test will increase visibility to the point where these conditions can be treated intelligently, and that the colposcope is an instrument whose usefulness to the average man does not justify the price of its purchase. If we accept the statement made by men eminent in this work that a satisfactory early diagnosis of carcinoma of the cervix cannot be made with the colposcope alone but depends in the last analysis on microscopic sections of the erosion, it follows that any method sensitive enough to show the erosion should be instrument a plenty if it is used with common sense and judgment.

Let us state in conclusion that the reporting of these observations with peroxide is prompted by the hope that its usefulness may be expanded by the experience and criticism of others.

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DISCUSSION

Dr. H. M. Allison, Greenville:

I want to thank Dr. McCutchen for his excellent presentation. I believe he has made a real contribution in his use of the peroxid test. After seeing a copy of his paper I used the peroxid test in two cases of Trichomonas which I had thought were cured. To my amazement I found a number of small white spots in the vagina in these cases, although the discharge had ceased. I have not had occasion to use it in any other type.

Dr. Marion H. Wyman, Columbia:

I do not believe a man can be a good urologist unless he is a fair office gynecologist. The gynecologists of the past were of necessity urologists, and I think the urologist ought to be a fair gynecologist.

Dr. McCutchen has given us several good points. One is the possibility of reinfection from the male, as well as from remote portions of the glands.

I do not believe that the term menopausal or senile vaginitis is correct, because too many women reach fifty years of age without having any trouble. Interstitial cystitis, submucosal, is the most chronic disease of the bladder that urologists have to treat, and the focus of that is supposed to be in the cervix. So I have been very much interested in coning these cervices out.

I do think Dr. McCutchen has given us a real contribution in his point about the reinfection. We cannot give a woman a douche and tell her to go home and use it from tme to time. You have to put her up on the table in your office and do something about it.

The peroxid test appeals to me. I do not see why it is not a very excellent thing, and I believe Dr. McCutchen is to be commended for having presented it to us today.

Dr. J. D. Guess, Greenville:

I came here to hear Dr. McCutchen's paper particularly because I wanted to learn something, and what I wanted to learn about was what he passed over with least to say, namely, the monilial or fungus infections of the vagina—or, rather, not infections but infestations. A discussion of disease of the vagina in this day and time without a discussion of monilial infestation is incomplete. I cannot add a great deal to this phase of the subject, but I do want to stress it. Monilial infestations are present in South Carolina, and in considerable quantities. The way to find them is to look for them. Now it is rather difficult to find them unless one routinely looks for them, using a definite technique It has been my experience to have quite a number of patients referred to me who had been treated for Trichomonas. They did not have Trichomonas, or, if they had had it, it had been cured. I found they had had Monilia.

How does one look for it? In the trichomonas infections the secretion is thinner—watery, milkish. In Monilia the vaginal content is more like the vaginal content of a woman in about the third month of pregnancy. It looks like curd or cream which is mashed up. It does not have a foul odor. If you put some of this material between two slides and mash them together, so you get a thick smear, you are almost sure to find the monilia, not only the bamboo-jointed rods but other forms, when the spread is stained with any simple stain and examined under the microscope.

Monilia is present. Recent work seems to indicate that Monilia is responsible for a good deal of so-called senile vaginitis. Perhaps that explains why some women go to forty-five or fifty years of age without vaginitis and other women have this condition.

What about the books? They used to dismiss it with a two per-cent gentian-violet application. But the books are beginning to change. At Duke they are doing some work with regard to desensitization to fungus. I am not familiar with that, and I hoped it might be mentioned today. Certainly there is the condition; and it is rather prevalent; and the ordinary treatment for Trichomonas or the ordinary treatment for nonspecific vaginitis will not relieve it.

Dr. McCutchen, Closing the Discussion:

Mr. President. I am very glad that Dr. Guess is here today, and I appreciate his discussion and that of the others. I had heard, I do not know whether through the grapevine or in some other way, that Dr. Guess for the last year or so was finding monilial infections right and left. I have been looking for them for about a year and a half, in cooperation with the Columbia Hospital, in practically every patient I have seen or had an opportunity to see, with culture preparations for detection of minute involvements, and according to the laboratory examination there have been none found. I am glad Dr. Guess mentioned it and impressed it more deeply that we should look for them conscientiously and that we may reasonably expect to find some if we look for them.

I hope that the members who have heard this paper today will make use of the peroxid test and will communicate with me about it. I am very anxious to work on it to a point where it is more useful to me and reasonably useful to the average man.

GROWTH OF TUBERCLE BACILLUS

Restraining or Inhibiting Effect of CO_2

Case Report

By

W. T. LANDER, M. D., WILLIAMSTON, S. C.

Twice the following experiment was performed. Into four glass-stoppered bottles 1/8 lit. capacity was measured equal quantity nutrient suited for growth tubercle bacillus. Into each bottle was measured the same quantity of emulsion of the live bacillus. These bottles we have denominated 1, 2, 3, 4. They contained an atmosphere of air. Number 1 of each was uncontaminated. Number 2 had 2% CO_2; Number 3 had 4% CO_2; Number 4 had 6% CO_2. The atmosphere was renewed each week. The bottles were incubated at body temperature. After three months, examination showed a very heavy brown deposit in Number 1, successively diminishing in 2, 3, and 4. Indeed, in Number 4 it was hard to say there was any sediment. These results suggested an inhibitory effect of CO_2 and led to the following experiment:

Eight bottles like the first were treated in like manner. We shall denominate them A1, 2, 3, 4 and O1, 2, 3, 4. In the the *A* series was an atmosphere of air. In the *O* series was an atmosphere of oxygen. The contamination with CO_2 was graduated as in the original series. At the end of three months, examination showed such graded deposits as in the first series, A4 and O4 being almost, if not entirely, clear of sediment. Then two test tubes with 2cc medium in each were seeded with A4 and O4, respectively. After incubating for two weeks, the contents were introduced into the abdomen of two guinea pigs. There pigs were tended for six weeks, during which time they seemed as lively and healthy as their companion pigs. On bringing them to autopsy, Dr. Feder and Dr. Wrenn, the best pathologists in reach, failed to find any evidence of tuberculosis. Had the CO_2 killed the germs?

The live culture used and the nutrient medium were obtained from the laboratories of Parke, Davis and Company. The date of autopsy was May 21, 1938.

Read before the Anderson County Medical Society, Anderson, S. C., July 8, 1938.

BOOK REVIEWS

SYMPTOMS OF VISCERAL DISEASE: A STUDY OF THE VEGETATIVE NERVOUS SYSTEM IN ITS RELATIONSHIP TO CLINICAL MEDICINE: By Francis Marion Pottenger, A. M., M. D., LL. D., F. A. C. P. Medical Director, Pottenger Sanatorium and Clinic for Diseases of the Chest, Monrovia, California, Professor of Clinical Medicine, University of Southern California; Author of "Clinical Tuberculosis," "Tuberculosis in Diagnosis and Treatment," "Muscle Spasm and Degeneration," etc. Fifth Edition with eighty seven text illustrations and ten color plates. Price $5.00. St. Louis, The C. V. Mosby Company, 1938.

This author has contributed much to the medical literature of the United States. The internist continues to keep step with the surgeon in the investigation of all forms of visceral disease and in doing so it is necessary to keep step also with the great advances in physiology. There is a correlation of clinical medicine carefully considered in the publication of this volume, and the book will therefore be of considerable assistance to the physician in active practice.

MACLEOD'S PHYSIOLOGY IN MODERN MEDICINE : Edited by Philip Bard, Professor of Physiology, John Hopkins University of Medicine, with the collaboration of Henry C. Bazett, George R. Cowgill, Harry Eagle, Chalmers L. Gemmill, Magnus I. Gregersen, Roy G. Hoskins, J. M. D. Olmsted, Carl F. Schmidt, from the faculties of, University of Pennsylvania, Yale University School of Medicine, Johns Hopkins University School of Medicine, University of Maryland School of Medicine, Harvard Medical School, and University of California. Eighth Edition. The C. V. Mosby Company, St. Louis, 1938.

This is an extensive contribution by nine distinguished teachers, the editor himself being Professor of Physiology in the Hopkins University. This is the eighth edition, which alone is evidence of the important place the book has occupied in the lives of both teachers and students. The illustrations are numerous and illuminate the text in a remarkable way.

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SEPTEMBER, 1938

STATE BOARD OF HEALTH TO ASSIST IN MEDICAL SURVEY

The Bureau of Rural Sanitation, Dr. B. F. Wyman, Director, is now cooperating with the South Carolina Medical Association in every County in the State in completing the medical survey begun some months ago through the office of the State Secretary. It is desired that the officers and committees of each County Medical Society make immediate contact with the Director of each County Health Unit whereever it is deemed advisable to accept the assistance proferred. A number of counties have already made these contacts, and the work is proceeding rapidly. In some counties it may be very difficult for the special committee in charge of this survey to command the necessary clerical help in filling out the blanks. The personnel of the County Health Unit in many instances by virtue of their extensive travels about the county will be able to visit the members of the medical profession and discuss with them these questionnaires. It is highly desirable that the entire survey be completed within the next few months.

PIEDMONT POST-GRADUATE CLINICAL ASSEMBLY

The program of the Clinical Assembly to be held at Anderson September 13, 14, 15 has been widely distributed in this and surrounding states. It is expected that the attendance will surpass any hitherto recorded. The Council on Medical Education and Hospitals of the American Medical Association after a personal visit has recently published this course as an authoritative post-graduate extension course along with the graduate course on obstetrics put on by the State Board of Health. This type of graduate education is now predominate in the United States and provides the busy doctor with refresher courses near his home and at a time of year when he can take advantage of the opportunity offered. These courses have been so arranged that most physicians can attend to their patients in the morning hours and visit the Assembly in the afternoon and evening hours. The invitation is extended to every South Carolina physician to be present.

LICENTIATES OF THE AMERICAN SPECIALTY BOARDS IN SOUTH CAROLINA

Some time ago the Journal published a list of members of the South Carolina Medical Association who had established officially their

qualifications to practice their specialties. Since that time there has been a considerable increase in the number, as the value of examination and certification in the specialties has been more widely recognized and sponsored. The following list is compiled from information obtained from the secretaries of the several boards in July 1938. The list is growing fast but still has many gaps.

American Board of Ophthalmology

Anderson, Ruskin G. ---------- Spartanburg
Asbill D. St. P. ---------- Columbia
Carpenter, E. W. ---------- Greenville
Jervey, J. W. ---------- Greenville
Jervey, J. W., Jr. ---------- Greenville
Lucas, S. R. ---------- Florence
Price, F. R. ---------- Charleston

American Board of Otolaryngology

Bristow, W. J. ---------- Columbia
Gray, E. B. ---------- Spartanburg
Jervey, J. W. ---------- Greenville
Jervey, J. W., Jr. ---------- Greenville
Hope, R. M. ---------- Charleston
Mobley, M. R. ---------- Florence
Sanders, J. L. ----------Greenville
Smith, J. E. ---------- Charleston

American Board of Dermatology and Syphilology

Allison, J. R. ---------- Columbia
van de Erve, John ---------- Charleston

American Board of Pediatrics

Bailey, C. W. ---------- Spartanburg
Barron, E. W. ---------- Columbia
Boggs, L. M. ---------- Greenville
Dotterer, T. D. ---------- Columbia
Hines, E. A. ---------- Seneca
Price, J. P. ---------- Florence
Smith, D. L. ---------- Spartanburg
Waring, J. I. ---------- Charleston
Weston, W. ---------- Columbia
Weston, W., Jr. ---------- Columbia

American Board of Radiology

Baxter, O. D. ---------- Sumter
Hay, P. D., Jr. ---------- Florence
Judy, W. S. ---------- Greenville
Mosteller, M. ---------- Columbia
Pitts, T. A. ---------- Columbia
Rodgers, F. D. ---------- Columbia
Rudisill, H. J. ---------- Charleston
Sheridan, W. M. ---------- Spartanburg
Taft, R. B. ---------- Charleston

American Board of Urology

Barron, W. R. ---------- Columbia
Davis, T. M. ---------- Greenville
Ravenel, J. J. ---------- Charleston
Thackston, L. P. ---------- Orangeburg

American Board of Obstetrics and Gynecology

McCrady, R. L. ----------Charleston
Wilson, L. A. ---------- Charleston

American Board of Orthopaedic Surgery

Boyd, W. A. ---------- Columbia
Coleman, L. H. ---------- Spartanburg
Hoshall, F. A. ---------- Charleston
White J. W. ---------- Greenville

American Board of Psychiatry and Neurology

Boone, J. E. ---------- Columbia
Horger, E. L. ---------- Columbia
Williams, C. F. ---------- Columbia

American Board of Surgery

Buist, A. J. ---------- Charleston
Bunch, G. H. ---------- Columbia
Cathcart, R. S. ---------- Charleston
Doughty, R. G. ---------- Columbia
Guerry, L. ---------- Columbia
Prioleau, W. H. ---------- Charleston
Rhame, J. S. ---------- Charleston

Information could not be obtained from the American Board of Internal Medicine and the American Board of Pathology.

J. I. W.

SPECIAL SESSION HOUSE OF DELEGATES AMERICAN MEDICAL ASSOCIATION CALLED FOR SEPTEMBER 16

The officers of the A. M. A. request that wide publicity be given to the call just sent out to the Delegates of the A. M. A. for the meeting to be held shortly in Chicago for the purpose of considering a national health program. The delegates from the South Carolina Medical Association to this special session will welcome any suggestions from the officers and members of the Association. It is probable that every state medical association Secretary and every Editor of a State Medical Journal will be invited to be present at this meeting. It would appear at this writing that an earnest effort will be made to reach the entire membership of organized medicine in America in order that they may be fully cognizent of this extraordinary session of the legislative body of the A. M. A. It goes without saying that this will probably be one of the most momentous occasions in the history of American medicine.

The official call is herewith presented.

TO THE MEMBERS OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

In compliance with the official request of members of the Board of Trustees that the House of Delegates be convened in Special Session, I, as Speaker, under authority of Chapter III, Section 2, of the By-Laws hereby officially call the House of Delegates of the American Medical Association to convene in Special Session in the City of Chicago, State of Illinois, at 10:00 A. M., Daylight Saving Time, on the sixteenth day of September, 1938.

The business to be transacted at this Special Session shall be limited to the consideration of the national health program submitted to the National Health Conference recently held in Washington and to such other matters as may be submitted to the House of Delegates by the Board of Trustees.

The House shall remain in session, recessing from day to day, until its deliberations are concluded.

This call is issued August 26, 1938.

H. H. SHOULDERS, M. D.,
Speaker, House of Delegates
American Medical Association

SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

FACTORS IN THE MORTALITY RATE OF ARTERIOSCLEROTIC GANGRENE

In a critical review of this subject (J. A. M. A. 110:785) Dr. J. R. Veal of New Orleans compares two series of cases of amputations for primary vascular diseases of the extremities. The first series consisted of 171 cases treated in the five years ending in 1933; the second series consisted of 110 cases treated during the last 3 1/2 years. Both series were treated by essentially the same group of men. In the first the mortality was 39 per cent and in the second 28.8 per cent. The lowering of the mortality rate the author ascribes to better understanding of the disease with a corresponding improvement in treatment.

Arteriosclerosis is a systemic disease. It is important that this fact be kept in mind in the general care of these patients. The systemic nature of the disease carries with it a certain mortality which will be increased if it is disregarded. The extent of the gangrene is of importance as an indication of the degree of vascular occlusion and the duration of the process. The mortality was lower in the cases of less extensive gangrene.

Delay is one of the most important controllable (by patient or physician) factors in the treatment of arteriosclerotic gangrene. Usually the attempt at salvage fails, and the patient often pays for it with his life.

The patient with arteriosclerotic gangrene is particularly susceptible to infection—though the reaction to it is of a sluggish nature. The infection is deep seated, spreading along tissue planes. The infection increases the gangrene and the gangrene increases the infection. Infection associated with a febrile reaction apparently has an important bearing on the mortality rate, particularly when it is present prior to amputation.

The site of amputation is of the greatest importance. Amputation unnecessarily high needlessly deprives the patient of a portion of his extremity; it also carries an additional mortality in inself. On the other hand, and even more to be feared, is amputation below the line of adequate circulation. This invariably results in grangrene of the stump and increases greatly both the morbidity and the mortality.

The circular type of amputation is to be preferred. The tissue must be handled gently. Hemostasis must be effected without mass ligation of tissue. The layers must be approximated without tension. It is the opinion of the author that the circulation is better with the stump placed at a lower level than the body so as to cause some venous congestion—rather than elevate it as is commonly practiced.

Arteriosclerotic gangrene will always be a serious disease, but by proper adherence to the above principles, the mortality can be considerably lowered. It is the experience of the editor that in very bad risk cases the guillotine amputation is to be preferred. This avoids the separation of tissue layers with resultant dead spaces; optimum drainage is afforded. The circulation of the stump is the least possible interfered with. In such cases a tourniquet is both harmful and unnecessary. When the general condition of the patient improves, a revision and closure of the stump can be safely performed.

PATHOLOGICAL CONFERENCE, MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Drs. Cannon, Kelley, Prioleau and McCrady

ABSTRACT NO. 358 (44443)
February 4, 1938

Student Breedin (presenting case):

A 22 year old negro female, admitted 12-21-37, died 12 23-37.

History (from husband): Patient said to be well one week prior to admission. Lower abdominal pain developed at about this time, "which shifted somewhat to left, later to right, and then became diffuse over abdomen, associated with vomiting on food intake and a variable amount of fever and prostration." Married 5 years, no pregnancies or miscarriages. Menstrual history not recorded. "Mild constipation." "Slight cough."

Examination: Temp. 99.8, pulse 128, resp. 28, BP 85/25. Acutely ill, semi-comatose, dehydrated. Pupils equal and react sluggishly to light and in accomodation. Sordes on lips and tongue. Teeth in poor condition. Neck negative. Chest: symmetrical; expansion, percussion and auscultation normal. No widening of mediastinum. Heart: point of maximum intensity of cardiac impulse in 5th interspace in midclavicular line; rapid, regular, sounds of fair quality, no murmurs. Pulse full, rapid and bounding. Abdomen: Diffusely tender, especially lower abdomen; liver palpated 2 fingers below costal border; moderately increased muscle resistance; no masses palpable. Rectum: Stricture 2 cm above anus, admitting only one finger. Vaginal: dirty discharge, slightly blood-tinged; markedly tender on bimanual examination; other findings somewhat indefinite: questionable mass in right cul-de-sac noted by one examiner, not by another. Deep reflexes very sluggish. Neck slightly stiff.

Laboratory: Urine (12-21) cath. spec. completely negative. Blood (12-21) Hb 9.5 gms (65%); WBC 28,000; polys 87%, lymphs 12%. Blood Kolmer 2 plus, Kline 4 plus. Blood Chemistry (12-22): Sugar 115 mgs; urea N 86 mgs; creatinin 3 mgs; cholesterol 99 mgs; direct Van den Bergh test 1 plus, delayed direct 2 plus; quantitative bilirubin 2.9 mgs; icterus index 63. Blood (12-21) Widal 2 plus, Weil Felix neg. Blood Culture (12-21) negative.

Course: Temp. remained between 102 and 103 most of time, falling to 101 just before death. Pulse varied between 180 and 140. Respirations 28 to 52, being generally more rapid during last 24 hours. Patient remained semi-comatose and somewhat irrational; voiding involuntarily. Lying continuously on left side, cried out when turned on right by nurse. Some bloody discharge from vagina persisted, and apparently some blood was present in stool. Gradually became weaker and died December 23, 1937.

Dr. Prioleau (conducting): As regards the statement that some blood was present in the stools, it is well to remember that this woman had several digital examinations of the rectum, and that they may have caused the bleeding.

Mr. Gaillard, will you open the discussion?

Student Gaillard: We have here a woman, acutely ill, semicomatose and dehydrated. She has abdominal tenderness and rigidity, and her pelvic examination reveals a questionable mass in the cul-de-sac. There is a brownish vaginal discharge, and she has a low blood pressure. These findings make me think very strongly of ruptured tubal pregnancy. Of course we have no menstrual history; that would be a great help in making a diagnosis in this case. Since she had no pregnancies in five years of married life, I believe that she had chronic inflammation of the fallopian tubes which would prevent an ovum from passing. At the time the rupture of the tubal pregnancy occurred, I think this chronic infection of the tubes became activated and that infection of the peritoneal cavity followed.

Dr. Prioleau: Do you mean a sequence of tubal pregnancy, then rupture of this pregnancy, then infection, and then peritonitis?

Student Gaillard: Yes. The record we have here of a woman in more or less shock, with low hemoglobin, low blood pressure, and abdominal findings, points towards intra-abdominal hemorrhage. The mass which one observer thought he felt in the cul-de-sac may well have been clotted blood there. I believe that the rupture occurred one week before her admission to the hospital, at the time of the sudden onset of her acute illness. I realize that infection of a tubal pregnancy, followed by peritonitis at the time of rupture, is not common, but I think it ties up with the record we have here as the best explanation for the whole picture.

We also know that she had a stricture of the rectum. Strictures are usually associated with ulceration of the bowel above the stricture. One of these ulcers could have ruptured to give rise to peritonitis.

Dr. Prioleau: Do you think it did rupture?

Student Gaillard: No I do not think so.

Dr. Prioleau: What do you think about the case, Mr. Pratt-Thomas?

Student Pratt-Thomas: I think it did rupture. We have here a very sick woman who has little which suggests tubal pregnancy and rupture to me. I would rather base her illness on the rectal stricture which we know she had. Just what the cause of her stricture may have been I do not know, but

lymphogranuloma inguinale is said now to be a common cause of that disease. Rectal stricture would be associated with stagnation of the fecal current, and with ulceration of the rectal wall above the stricture. I realize that ulceration of these ulcers does not commonly occur from rectal stricture, but here we have a sudden onset of severe abdominal symptoms in one we know has rectal stricture, and this sudden onset is very suggestive of perforation to me.

Later in the course of her illness she developed jaundice and enlargement of the liver, having at the same time an irregular fever. Pylephlebitis, or thrombophlebitis of the portal vein seems to be a likely explanation for these symptoms, since we have definite evidence of inflammation of the lower intestinal tract, which would drain into the portal vein. On the other hand, the liver lesion could be of the order of a toxic hepatitis, but I doubt it.

Typhoid fever could be the background for the illness, with sudden perforation of an ulcer of the intestine. That diagnosis does not agree, however, with the sudden onset in one apparently perfectly well before.

Acute appendicitis with rupture is also a possibility, but it seems unlikely to me in view of the findings.

The vaginal discharge suggests recent abortion, but we have here no record to substantiate that. If we had a history of recent pregnancy, that could be the background. But the nature of the discharge as described here it not even definitely bloody; she may have been menstruating.

In spite of the fact that the stricture of the rectum in this case does not appear to have been complete, I am inclined to believe that the case is one of peritonitis and of liver involvement, based on the rupture of an ulcer of the rectum above the stricture.

Dr. Prioleau: Mr. Plenge, what do you make of it?

Student Plenge: I believe that the sudden onset of abdominal symptoms, and the fact that the patient is very ill, point towards perforation of the bowel, as Mr. Pratt-Thomas has stated. But perforation of one of the ulcers of the rectum above a stricture is so uncommon that I would rather look somewhere else for the cause of the perforation. The fact that the Widal is 2 plus suggests that she may have had typhoid fever. I believe that typhoid fever comes nearer fitting the whole case than does any other diagnosis. Of course the vaginal discharge and the pelvic findings are not explained on that basis. But such symptoms and findings are so common in the negro, frequently based on chronic endocervicitis and salpingitis, that I am inclined to pass over them. I believe that her disease was typhoid fever, and that perforation occurred suddenly one week before admission. That fits in with the low hemoglobin and low blood pressure (hemorrhage from the intestinal ulcers of typhoid fever) and with the peritonitis. The jaundice and enlargement of the liver may have been due to hepatitis occurring during the course of typhoid.

Dr. Prioleau: You are explaining the liver findings on that basis, but are not explaining the vaginal findings.

Dr. Prioleau: Do any members of the faculty care to discuss the case?

Dr. McCrady: As I told Dr. Lynch before coming in here today, I couldn't made heads or tails of this case on the ward.

I can't quite see ruptured ectopic pregnancy in this case though. The hemoglobin is not nearly so low as we would expect one week after rupture. Such cases usually die of hemorrhage, and death should have occurred before a week if that was the case. Infection of a ruptured tubal pregnancy, as has been suggested, is very uncommon.

And against typhoid fever is the story that she was perfectly well prior to one week before admission when her acute illness appeared.

And I don't think we can say much about the possibility of septic abortion in this case, without any history to suggest pregnancy, and with no more findings than we have here. The uterus should have been enlarged and tender. That vaginal discharge didn't impress me as being at all remarkable.

To me the case was one of peritonitis, but what caused it I do not know. I didn't think it was a ruptured ectopic pregnancy, and I didn't think it was a perforated typhoid ulcer of the intestine.

Dr. Kelly: I would like to point out that the blood chemistry reports were received after death, and hence did not come into the clinical consideration of the case. I do not believe that we would have passed over the possibility of severe damage to the liver if we had known that the blood cholesterol was so low, and the icterus index so high. I know the results of the autopsy, and cannot discuss the case without prejudice.

Dr. Cain: I suspect that there is something very unusual here. But let's surmise. Negroes frequently don't consider themselves sick until they go to bed. Realizing that, I think we might consider this a case of typhoid fever, whose early symptoms were mild, with sudden perforation. of course perforation doesn't often occur in a mild case of typhoid fever. I don't think we can place much dependence on the Widal test, since a 2 plus reaction is not uncommon in severe septic states. All the blood pressure means to me is that the patient was nearly dead when it was taken. I am surprised that nothing was found in the urine. I would expect some albumin in almost any disease that caused so much toxicity generally. The fact that the blood culture was negative doesn't worry me in the diagnosis of typhoid fever, since it is usually positive only in the early stages of the disease.

Dr. Robert Wilson. Judging by the number of men who saw this patient on the ward, I would imagine that it was a very difficult case clinically. But I don't quite follow why everyone is trying to explain

a peritonitis. To me there is nothing on the record to convince me that she had peritonitis.

Dr. Prioleau: When I first saw this woman clinically she appeared to me to be very septic. She was a mulatto; we have frequently run into cases of atempted abortion in mulattoes, in fact much more commonly than in the dark-skinned negroes, who assume a matter-of-fact attitude towards pregnancy and tend to do little or nothing about it. The vaginal discharge, looked at in this light, assumed considerable importance to us. She was very tender in the lower abdomen, both on direct abdominal examination and on vaginal examination. We could not map out the size of the uterus because of this tenderness and resistance. On the second day we noted jaundice, but interpreted that as due to hemolysis from severe bacterial infection. As Dr. Kelly has pointed out, we did not have the laboratory findings at that time to suggest liver disease. We thought she had a pelvic peritonitis, but did not think she had a generalized peritonitis. We thought it was a septic state from septic abortion.

We see strictures of the rectum very commonly in the out-patient clinic. We almost always dilate them slowly and get fairly good results. We have frequently seen strictures in which the narrowing of the lumen of the bowel was much more striking than it was in this case, but I cannot recall a single case in which perforation occurred. We tended to somewhat discount the rectal stricture, since it was large enough to admit a finger, and felt fairly soft.

Dr. Lynch: I agree with Dr. Prioleau fully about the rarity of rupture of the intestine as a result of rectal stricture. I have seen death from stricture of the rectum, but such cases usually die from infection of the bowel above, frequently with either peritonitis (secondary to gangrenous inflammation of the bowel, not to perforation) or septic thrombophlebitis. This woman had septic thrombophlebitis; she had no peritonitis.

The course of events in this case was apparently as follows: stricture of the lower portion of the rectum occurred, the cause of which I will discuss later. The stagnation of the fecal current gave good opportunity for the normal intestinal flora to invade the tissues. They did so and produced extensive infiltration and induration and ulceration of the intestinal wall above the stricture. This infection then extended to the veins about the rectum. In this specimen (demonstrating specimens) you can see the inflammation of the rectum and the veins about the rectum reddened and filled with a dirty pus. This infective material was then carried by the portal circulation to the liver where embolic abscesses developed. The portal vein itself, at the time of autopsy, was filled with dirty, foul grayish pus, quite similar to that in the para-rectal veins. The liver was studded with embolic abscesses filled with similar grayish pus; one of these abscesses was five centimeters in diameter. Infected emboli were also disseminated to the lungs, and there were embolic abscesses there. This makes a very complete picture of "pyemia," from venous infection and embolism. Such inflammation of the portal tract and abscesses of the liver may occur from any sort of inflammatory process which drains into the portal vein, and occurs especially after inflammations about the appendix and rectum.

This woman's cervix was not viewed during life, as she was too sick for speculum examination. If it had been viewed, the cause for the vaginal discharge would have been obvious. There was a marked chronic ulcerative process of the cervix, which is quite comparable to the picture in the rectum. Here you see the sections (demonstrating slides by microprojector); there is mucosal erosion and granulation of both the cervix and the rectum, and there is thrombophlebitis in both sections; many bacteria can be seen here within the thrombi in the veins.

Our ideas as to the cause of rectal strictures have been going round and round for many years. A long time ago they were frequently diagnosed as tuberculosis of the rectum, although that is now known to be very rare as a direct cause of rectal stricture. Then the idea that they were due to syphilitic infection came into vogue, and that was followed by gonorrhea as a cause of rectal stricture. More recently we have heard a lot about lymphogranuloma venereum as a common cause of inflammatory of the rectum. Whether that is really the case also remains to be proven by time. I get a distinct impression from this case that there was an inflammation of some specific type involving both the cervix and the rectum. But it does not have the ear-marks of lymphogranuloma venereum as we are accustomed to think of that disease. There was no active inflammation or scarring of the external genitalia, and there was no evidence of either old or recent lymphadenitis. The lesion of the lower rectum, narrowing the lumen of the bowel, was fibrous to some extent, but it appears to me to be active inflammatory infiltration rather than old scar.

For many years rectal strictures have been thought to have a background in venereal infection. This is because they occur so much more commonly in the female than in the male, and because the lymphatic drainage from the vagina tends to be into the lymph vessels about the rectum. But I believe that the question of the etioiogy of rectal strictures is still far from solved.

In this particular case the history, which was taken from the husband, we must remember, states that she was suddenly taken severely sick while in apparently in good health. I think that it is quite common for people who have a chronic illness which later becomes acute, to date their illness from the time of the onset of acute symptoms; that would be even more likely if someone other than the patient himself were relating the history. I believe that this woman's comparatively acute symptoms, from which her illness is dated, correspond with the time of onset of thrombophlebitis and septic embolism, and

that her chronic illness long antedated that time.

Post-mortem cultures were taken from the liver abscesses. They showed the usual intestinal tract bacteria of assorted types.

MINUTES OF HOUSE OF DELEGATES CONTINUED. FINANCIAL REPORT OF SOUTH CAROLINA MEDICAL ASSOCIATION AND JOURNAL

Seneca, S. C.
May 14th, 1938

Dr. E. A. Hines, Sec. Editor,
South Carolina Medical Association,
Seneca, S. C.
Dear Sir:—

I submit herewith my report on the annual audit of the books of the South Carolina Medical Association and the Journal of the South Carolina Medical Association. Certificates from the South Carolina National Bank, the Postoffice, and the Receiver of the Seneca Bank verifying the cash balances shown in the report are attached. Your attention is called to information in the letter from the Receiver of the Seneca Bank relative to the 5% dividend paid in 1937 and other information regarding these accounts.

Complete and accurate records have been kept of receipts, disbursements, and other necessary information. There is an increase of sixty eight members over the previous year. The assets also show a net increase for the year of $388.10.

Yours truly,
Frances R. Richardson,
Auditor.

Seneca, S. C.
May 12th, 1938

Dr. E. A. Hines
Seneca, S. C.

This is to certify that Dr. E. A. Hines has on deposit in postal savings in the Seneca, S. C., post office the amount of $1000.00.

Respt.
Ray Phillips
Postmaster

Seneca, S. C.
May 13, 1938

Dr. E. A. Hines, Editor,
Journal of the South Carolina Medical Association,
Seneca, S. C.
Dear Sir:

This is to certify that the balance on deposit in checking account in that name of Journal, South Carolina Medical Association, in this bank, as of December 31, 1937, was $1,352. 45.

Very truly yours,
C. V. Stribling,
Manager.

May 13, 1938
Seneca, S. C.

Dr. E. A. Hines, Treasurer,
South Carolina Medical Association,
Seneca, S. C.
Dear Sir:

This is to certify that the balance on deposit in checking account in the name of the South Carolina Medical Association, in this bank, as of December 31, 1937, was $690.98.

Very truly yours,
C. V. Stribling,
Manager.

Reconciliation:

Balance shown by bank	$690.98
% check	1.00
Balance shown by book	$689.98

Seneca, S. C.
May 13, 1938

Dr. E. A. Hines, Treasurer,
South Carolina Medical Association,
and Editor, Journal of the South Carolina Medical Association,
Seneca, S. C.
Dear Sir:

With reference to your claims against The Seneca Bank, in liquidation, the undersigned, as Receiver, does hereby certify:

1. That the balance due on claim represented by checking account in the name of Dr. E. A. Hines, Treasurer, South Carolina Medical Association, as of December 31, 1937, was $239.41.
2. That the balance due on claim represented by checking account in the name of Journal, South Carolina Medical Association, Dr. E. A. Hines, Editor, as of December 31, 1937, was $417.78.
3. That the balance due on the claim represented by Certificate of Deposit in the name of Dr. E. A. Hines, Editor, Journal, South Carolina Medical Association, as of December 31, 1937, was $401.31.

Shown on report in combined balance $819.09

For your information, we wish to state that dividends aggregating sixty per cent (60%) have been paid on the above claims and it is probable that further dividends of about from five per cent to seven and one-half per cent will be paid from the liquidation of the remaining assets of the closed bank.

Very truly yours,
C. V. Stribling,

STATEMENT OF RECEIPTS AND DISBURSEMENTS SOUTH CAROLINA MEDICAL ASSOCIATION

For Year Ending Dec. 31, 1937.

RECEIPTS

Balance in Banks Jan. 1, 1937

Defunct Seneca Bank	$ 269.34
S. C. National Bank	664.63

Postal Savings	1,000.00	
		$1,933.97
Membership Dues		2,202.00
		$4,135.97

DISBURSEMENTS

Printing		$ 241.44
Salary Sec.-Editor		
Bal. Due 1936	$ 550.20	
1937	341.70	
		891.90
Salary Stenographer		400.00
Office Expense		93.32
Library Equipment		163.61
Stamps		48.50
Travel Expenses Two Delegates American Medical Association		206.85
Expenses Official Stenographer Convention		89.39
Sundries		46.57
Annual Audit		25.00
Balance in Banks Dec. 31, 1937		
Defunct Seneca Bank	239.41	
S. C. National Bank	689.98	
Postal Savings	1,000.00	
		1,929.39
		4,135.97

STATEMENT OF RECEIPTS AND DISBURSEMENTS JOURNAL SOUTH CAROLINA MEDICAL ASSOCIATION

For Year Ending Dec. 31, 1937

RECEIPTS

Balance in Banks Jan. 1, 1937		
Defunct Seneca Bank	$ 921.49	
S. C. National Bank	1,067.93	
		$1,989.42
Subscriptions		1,486.00
Advertising		2,405.72
		$5,881.14

DISBURSEMENTS

Printing		$2,025.00
Salary Sec.-Editor		1,195.95
Stenographer		
Bal. Due 1936	$ 50.00	
1937	175.00	
		225.00
Office Expense		132.65
Sundries		84.05
Library Equipment		46.95
Balance in Banks Dec. 31, 1937		
Defunct Seneca Bank	819.09	
S. C. National Bank	1,352.45	
		2,171.54
		$5,881.14

COMBINED STATEMENT OF RECEIPTS AND DISBURSEMENTS SOUTH CAROLINA MEDICAL ASSOCIATION AND JOURNAL OF SOUTH CAROLINA MEDICAL ASSOCIATION

For Year Ending Dec. 31, 1937

RECEIPTS

Balance in Banks Jan. 1, 1937			
Defunct Seneca Bank	$1,190.83		
S. C. National Bank	1,732.56		
Postal Savings	1,000.00	$ 3923.39	
Advertising			2405.72
Subscriptions			1486.00
Membership Dues			2202.00
			$10,017.11

DISBURSEMENTS

Printing			2,266.44
Salary Sec.-Editor			
Bal. Due 1936	550.20		
1937	1.537.65	2,087.85	
Salary Stenographer			
Bal. Due 1936	50.00		
1937	575.00	625.00	
Office Expense			225.97
Library Equipment			210.56
Stamps			48.50
Travel Expenses Two Delegates American Medical Association			206.85
Expenses Official Stenographer Convention			89.39
Sundries			130.62
Annual Audit			25.00
Balance in Banks Dec. 31, 1937			
Defunct Seneca Bank	1.058.50		
S. C. National Bank	2,042.43		
Postal Savings	1,000.00	4,100.93	
			$10,017.11

Assets as of Dec. 31, 1937		
Cash in Banks and Postal Savings		4,100.93
Furniture and Fixtures		1.085.33
		$ 5,186.26
Liabilities as of Dec. 31, 1937		
Due E. A. Hines on Salary 1937		512.55
Due Leola Hines on Salary 1937		50.00
		$ 562.55

LIST OF MEMBERS BY COUNTIES
1937

	PAID	HON.
Abbeville	5	4
Aiken	17	
Allendale	1	
Anderson	38	4
Bamberg (Edisto)	5	1
Beaufort-Jasper	8	
Barnwell	7	
Berkeley	7	
Calhoun (Edisto)	4	
Cherokee	11	2
Chesterfield	5	
Chester	6	3
Charleston	83	14
Clarendon	2	
Colleton	10	
Columbia	86	23
Darlington	12	
Dillon	8	
Dorchester	7	
Edgefield	1	
Fairfield	3	
Florence	29	1
Greenville	86	10
Greenwood	15	
Georgetown	1	
Hampton	1	
Horry	1	
Kershaw	15	2
Lancaster	7	2
Laurens	10	5
Lexington	11	
Lexington (Ridge)	3	1
Marion	10	
Marlboro	7	1
Newberry	28	
Oconee	10	4
Orangeburg	23	
Pickens	11	2
Saluda	4	1
Spartanburg	50	4
Sumter	16	5
Union	10	5
Williamsburg	13	8
York	24	
	711	102
Honorary Fellows	102	
Total Membership	813	

SOCIETY REPORTS

RIDGE MEDICAL SOCIETY MEETING

The Ridge Medical Society met Monday, August 15, in Johnston, S. C., in Dr. E. W. Tucker's office at 7:40 P. M. with a larger attendance than usual.

Dr. W. P. Timmerman reported two deaths from whooping cough and its complications.

Dr. C. G. Spivey, of Columbia, read an interesting and instructive paper on Symptoms of Heart Failure in Hypertension. It was discussed by Drs. R. H. Timmerman, A. R. Nicholson, James Dobey, and T. A. Pitts.

Dr. T. A. Pitts, our Councilor, made an interesting talk on the necessary cooperation of the dentists and physicians and the care of and the surroundings generally of the people, also specifically of some conditions. He also mentioned the possibility of our government assuming the employment of physicians to treat the afflicted. He named various amounts which have been spent and are being spent on and for medical activities, some of which appeared to be appalling.

Dr. Pitts and Dr. Nicholson stressed the importance of the doctors conferring with the candidates for legislative honors before the elections, and especially our candidates for Congress.

Dr. Spivey stated that in some sections as much as forty per cent of the afflicted didn't pay for medical advice and treatment.

Dr. F. G. Asbill very forcefully criticised our governmental activities with regard to various agencies and said that the Social Security was a misnomer that it should be termed Social Insecurity.

The ladies auxiliary was well attended and met in one of Dr. Tucker's offices.

We had a delicious supper in Miss Clarke's Cafe, and the ladies of the auxiliary were guests of the society.

Three applications for membership were received. All regretted the absence of Dr. and Mrs. J. D. Waters and wished for the doctor continued improvement.

Dr. K. L. Able, of Leesville, has located in Lexington. Dr. J. F. Dusenberry, of Ninety

Six, has located in Saluda, S. C. Dr. W. E. McCurry, of Georgia, has located in Ridge Spring.

Dr. A. T. Hutto, of Pelion, is a candidate for the House of Representatives from Lexington County.

SEVENTH DISTRICT MEDICAL ASSOCIATION

To the Members of the Association.

Dear Doctor:

It's time to be thinking about our Seventh District Medical Association meeting.

This year we meet with the Clarendon County Medical Association. That always means a big time for everybody.

The time of meeting is Thursday, September 15th. You will receive further notice as to the exact hour and place of meeting.

A fine scientific program is being prepared. If you wish to present a paper, please let the secretary have the title so that it can appear on the official program.

Mark this date on your office calendar right now. You cannot afford to miss one of these fine meetings.

A. C. Bozard, President,
Manning, S. C.
Carl B. Epps, Sec.-Treas.
Sumter, S. C.

BOOK REVIEWS

A TEXTBOOK OF BACTERIOLOGY: By Thurman B. Rice, A. H., M. D., Professor of Bacteriology and Public Health at the Indiana University School of Medicine. Second Edition, Revised. 563 pages with 121 illustrations. Philadelphia and London: W. B. Saunders Company, 1938.

This book has been written largely for the student but the practitioner always has a need of up to date knowledge on the subject. The various means of studying bacteria and staining methods have been described. The question of immunology is discussed. The practical use of vaccines is considered. The book covers the subject quite well for the student and any others who are interested in the subject.

PATHOLOGICAL TECHNIQUE: By Frank Burr Mallory, A. M., M. D., S. D., Consulting Pathologist to the Boston City Hospital, Boston, Mass. 434 pages with 14 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, $4.50 net.

This author is one of the best known pathologists in the country. Even a working knowledge of pathology is essential for every physician and he cannot go back to these fundamentals too often for guidance. The book begins with a description of ways and means for equipping a laboratory and then launches into the practical methods of examining specimens. A considerable section of the book is devoted to post mortem technique. Many doctors have to perform an autopsy far away from the laboratory in the homes or elsewhere. The book gives instruction along this line. The volume is attractively bound and on good paper and the print is pleasing to the eye.

THE PRACTICE OF UROLOGY: By Leon Herman, B. S., M. D., Professor of Urology, University of Pennsylvania, Graduate School of Medicine. 923 pages with 504 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, $10.00 net.

This specialty has made rapid advances in the last quarter of a century and the author here provides a book for the general practitioner and surgeon dealing with patients as they are seen in daily practice. It to a considerable extent records the clinical experience of the author. The illustrations are extensive and the volume really encyclopedic in scope.

A TEXTBOOK OF GYNECOLOGY: By Arthur Hale Curtis, M. D., Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School. Third Edition, Reset. 603 pages with 318 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, $7.00 net.

This new edition has been extensively revised and includes a number of chapters on anatomy with unusually fine illustrations not only here but all through the book. The section on the endocrine glands is well done showing X-ray pictures and illustrations. The chapter on endometriosis gives the history of the disease and beautiful illustrations of the pathological condition. Many operative procedures are described throughout the book.

DISEASES OF THE SKIN FOR PRACTITIONERS AND STUDENTS: By George Clinton Andrews, A. B., M. D., Associate Professor of

Dermatology, College of Physicians and Surgeons, Columbia University; Chief of Clinic, Department of Dermatology, Vanderbilt Clinic. Second Edition, Entirely Reset. 899 pages with 938 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, $10.00 net.

This new edition has incorporated seventy five new diseases and many chapters in the first edition have been re written completely. As was to be expected the X-ray and radium management of skin diseases take up a good part of the book. The illustrations are numerous and most excellent. The general practitioner as well as the student will find this book to be authoritative and highly instructive.

CANCER WITH SPECIAL REFERENCE TO CANCER OF THE BREAST: By R. J. Behan, M. D., Dr. Med. (Berlin) F. A. C. S. Cofounder and Formerly Director of the Cancer Department of the Pittsburg Skin and Cancer Foundation, Pittsburgh, Pa. Illustrated. Price $10.00. St. Louis. The C. V. Mosby Company, 1938.

The extensive research work going on throughout the world today on cancer deserves to be encouraged by such books as this. While the book has been written with special reference to cancer of the breast all forms of cancer have been given careful consideration. The author believes that the investigations of cancer need not be confined to the great institutions for individual investigators with simple equipment may yet discover the cause of cancer and thus the problem be solved. The history of cancer going back to fifteen hundred years B. C. has been brought up to date. The chapter on general consideration of cancer follows with extended comments. The cause of course has been given due emphasis and the pathology a very thorough presentation. From this point on the symptoms, the diagnosis, the metastases, the treatment and subsequent results have all been well presented. This is a book of eight hundred and forty four pages.

PNEUMONIA AND SERUM THERAPY: By: Frederick T. Lord, M. D. Clinical Professor of Medicine, Emeritus, Harvard Medical School; Member of the Board of Consultation, Massachusetts General Hospital; and Member of Massachusetts Advisory Committee on Pneumonia, 1931-1935. Roderick Heffron, M. D. Field Director, Pneumonia Study and Service, Massachusetts Department of Public Health, 1931-1935. Revised Edition of Lobar Pneumonia and Serum Therapy. Price $1.00. New York: The Commonwealth Fund, 41 East 57th St., London: Humphrey Milford: Oxford University Press.

The campaign is in progress all over the country in the interest of the control of pneumonia and as is often the case the enthusiasm sometimes is unwarranted by the facts. Sometimes the enthusiasm leads into dangerous experiments. This little book will go far towards crystalizing a sane attitude. There appears to be no doubt that progress is being made in the management of pneumonia and lives are being saved by serum therapy. A clear cut study is herewith presented of the whole subject giving many details of how to administer serum and what to expect after this treatment is instituted.

OUTLINE OF ROENTGEN DIAGNOSIS: By Leo G. Rigler, B. S., M. B., M. D., Professor of Radiology, University of Minnesota, Minneapolis, Minnesota. An orientation in the basic principles of diagnosis by the roentgen method. J. B. Lippincott Company, Philadelphia and New York. (Atlas Edition). Price $6.50.

THE COMPLETE PEDIATRICIAN, PRACTICAL, DIAGNOSTIC, THERAPEUTIC AND PREVENTIVE PEDIATRICS: By Wilburt C. Favison, M. A., D. Sc., M. D., Professor of Pediatrics, Duke University School of Medicine and Pediatrician, Duke Hospital. For the Use of Medical Students, Internes, General Practitioners, and Pediatricians. Durham, N. C., Printed by Seeman Printery for Duke University Press, 1938.

This book was extensively reviewed when it was first published, and it was considered at that time to be a unique contribution to pediatric literature and one worthy of daily consultation by any physician engaged in pediatric practice. The comment made by the reviewer at that time gave the book credit for having more information in a comparatively small space than any other publication of the reviewer's knowledge. The first volume received wide spread comments throughout the country, and as a result a second edition is off the press with many important changes.

A SYNOPSIS OF THE DIAGNOSIS OF THE ACUTE SURGICAL DISEASES OF THE ABDOMEN: By John A. Hardy, B. Sc., M. D., F. A. C. S. Price $4.50. St. Louis, The C. V. Mosby Company, 1938.

Only experience is the court of last resort in a decision about acute abdominal conditions, be they surgical or otherwise. The human mind, however, often profits by the type of book herewith presented. This is an excellent presentation of the subject in epitome form. The illustrations are splendid, and regardless of experience one should be a better diagnostician after having mastered this little volume. The book is dedicated to Dr. Stuart McGuire, of Virginia, one of the best known surgeons in the country.

SYNOPSIS OF GENITOURINARY DISEASES: By Austin I. Dodson, M. D., F. A. C. S. Richmond, Virginia. Professor of Genitourinary Surgery, Medical College of Virginia; Genitourinary Surgeon of the Hospital Division, Medical College of Virginia; Genitourinary Surgeon to Crippled Children's Hos-

pital; Urologist to St. Elizabeth's Hospital; Urologist to St. Luke's Hospital and McGuire Clinic. Second Edition with 112 illustrations. Price $3.00, St. Louis The C. V. Mosby Company, 1937.

This is another one of the epitome books so valueable as a ready reference manual. There are a large number of illustrations.

ANUS, RECTUM, SIGNOID COLON. DIAGNOSIS AND TREATMENT: By Harry Ellicott Bacon, B. S., M. D., F. A. C. S., F. A. P. S., Assistant Professor of Proctology, Temple University School of Medicine, Assistant Professor of Proctology, Graduate School of Medicine, University of Pennsylvania. Introduction by W. Wayne Babcock, A. M., M. D., LL. D., F. A. C. S., Professor of Surgery, Temple University School of Medicine. Foreword by J. P. Lockhart-Mummery, M. A., M. B., B. C. (Cantab), F. R. C. S. (Eng.), Emeritus Surgeon, St. Mark's Hospital, London, England, J. B. Lippincott Company, Philadelphia, Montreal, London.

The rapidly growing specialty of proctology now boasts of a constant stream of books, and in general more creditable books. It has not been so long since some phases of this specialty were promoted by the questionable practices of the quack, but most of this period has disappeared and the science and art of medicine steps in on a high plane. This is an admirable contribution and reflects the experience of a master. The author intends that this work shall prove to be not only a working guide but a reference book of great value. It has been in preparation for seven years. Nearly everything that is known and found to be representative of the best practice in proctology is contained in this volume of eight hundred and fifty five pages. In some specialties illustrations are peculiarly necessary, and in proctology this is specially the case. The author has made an extraordinary selection for his book. The printers have done a good job, as is usual with this long established firm.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY: A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A. M., M. D., F. A. C. S., Lieut-Colonel, M. R. C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of the "American Pocket Medical Dictionary." With the Collaboration of E. C. L. Miller, M. D., Medical College of Virginia. Eighteenth Edition, Revised and Enlarged. 1607 pages with 942 illustrations, including 283 portraits. Flexible and Stiff Binding. Philadelphia and London: W. B. Saunders Company, 1938.

There are five thousand new words added to this admirable dictionary. One splendid feature is the historical data and medical biographies. There are many illustrations in colors. There are some thirty two pages of tests each one being described in detail. There is a complete list of the various serums with descriptions and indications for use. The actual pronounciation of every word is given not merely the accent and also the derivations of words. The book is beautifully bound and thumb indexed.

THE VITAMINS AND THEIR CLINICAL APPLICATION: By Professor W. Stepp, University of Munich; Docent Kuhnau, Director of the Municipal Institute for Balneology and Metabolism, Wiesbaden; Dr. H. Schroeder, University of Munich; and H. A. H. Bouman, M. D., translator. The Wisconsin Cueno Press, Inc. The book is also available from the Vitamin Product Company, Milwaukee, Wisconsin. Price $4.50.

This is a translation and is intended to be of help to the physician who is seeking a clearer understanding of the use of vitamins in the practice of medicine. A history of the known vitamins is presented, giving the chemistry, determination, occurrence, manifestations, absorption, clinical application, physiology, preparation, and dosage.

BLACKMAN SANATORIUM

A medical institution for the diagnosis and treatment of internal diseases

Extensive facilities for hydrotherapy and colonic lavage.
Electrotherapy including fulguration

LIKE NEW THROUGHOUT
Clinical and X-ray Laboratory Service 25 Attractive Hotel Type Rooms
A Department for the Lambert Treatment for Alcohol

418 CAPITOL AVENUE ATLANTA, GA.

OUTLINE OF ROENTGEN DIAGNOSIS: By Leo G. Rigler, B. S., M. B., M. D., Professor of Radiology, University of Minnesota, Minneapolis, Minnesota. J. B. Lippincott Company, Philadelphia and New York. (Student Edition). Price $3.00.

The medical student now is required to have much more than a simple acquaintance with the X-ray and likewise the practising physician should have an extensive general knowledge not only of the value of the X-ray in diagnosis but likewise in the domain of treatment. Both of these volumes are designed to furnish just the information required of the student and the doctor in the diagnostic field. The Atlas section gives teaching drawings, roentgenograms and schematic diagrams. This section alone is invaluable. There are two hundred and twenty seven figures covering all parts of the body. The figures on the chest are particularly good.

FOR SALE—The office equipment of the late D. Kivy Pearlstine, of Charleston, S. C. The office has been kept open since his death several months ago, his records are intact, and his former secretary is still available; so it is possible that a sufficient amount of his former practice may be reclaimed to make it interesting for a properly qualified physician to purchase the practice as well as the equipment.

If interested in either buying the office equipment or occupying his office and taking over the residual practice, please communicate with his widow, Mrs. Rita Pearlstine, 45 Gibbs Street, Charleston, S. C.

REPRINTS

Of your article in The Journal may often be called for.

Type on the Original Articles is held thirty days after publication, affording a considerable saving in the cost of reprints.

Don't fail to order reprints!

PROVENCE-JARRARD COMPANY, Inc.

Greenville, S. C.

Theocalcin

Council Accepted

In Congestive Heart Failure

For the reduction of edema and to diminish dyspnoea, give 1 to 3 tablets of Theocalcin, three times a day. Theocalcin, theobromine-calcium salicylate is a well-tolerated diuretic and myocardial stimulant for oral administration.

Available as 7½ grain tablets and in powder form.

Bilhuber-Knoll Corp. 154 Ogden Avenue JERSEY CITY, N. J.